

**Technical training.**  
Product information.

## **F12 Introduction**



**BMW Service**

Edited for the U.S. market by:  
**BMW Group University**  
Technical Training

ST1103

5/1/2011

# General information

## Symbols used

The following symbol / sign is used in this document to facilitate better comprehension and to draw attention to particularly important information:



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Contains important safety guidance and information that is necessary for proper system functioning and which it is imperative to follow.

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## Information status and national-market versions

The BMW Group produces vehicles to meet the very highest standards of safety and quality. Changes in terms of environmental protection, customer benefits and design make it necessary to develop systems and components on a continuous basis. Consequently, this may result in differences between the content of this document and the vehicles available in the training course.

As a general principle, this document describes left-hand drive vehicles in the European version. Some controls or components are arranged differently in right-hand drive vehicles than those shown on the graphics in this document. Further discrepancies may arise from market-specific or country-specific equipment specifications.

## Additional sources of information

Further information on the individual topics can be found in the following:

- Owner's Handbook
- Integrated Service Technical Application

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The information in the document is part of the BMW Group technical training course and is intended for its trainers and participants. Refer to the latest relevant BMW Group information systems for any changes/supplements to the technical data.

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VH-23/International Technical Training

# F12 Introduction

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# F12 Introduction

## 1. Introduction

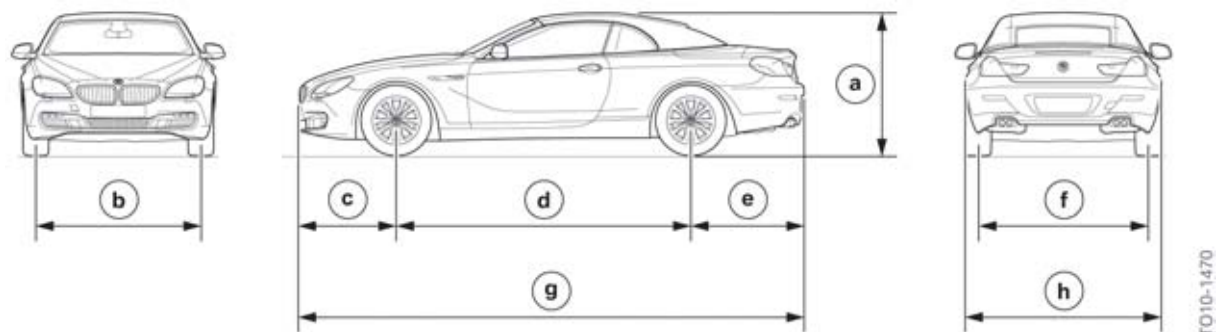
### 1.1. The new BMW 6 Series Convertible

The F12 650i will be going on sale in May 2011.



BMW 6 Series Convertible

#### 1.1.1. Dimensions



F12 Overall dimensions

Index	Explanation		Value
a	Vehicle height, empty	[mm]	1365
b	Front track width, basic wheels	[mm]	1600
c	Front overhang	[mm]	941
d	Wheelbase	[mm]	2855
e	Rear overhang	[mm]	1098

# F12 Introduction

## 1. Introduction

Index	Explanation		Value
f	Rear track width, basic wheels	[mm]	1657
g	Vehicle length	[mm]	4849
h	Vehicle width excluding exterior mirrors*	[mm]	1894

\* Vehicle width including exterior mirrors: 2081 mm

### F12/E64 comparison

		F12	E64
Vehicle height, empty	[mm]	1365	1375
Front track width	[mm]	1600	1558
Front overhang	[mm]	941	942
Wheelbase	[mm]	2855	2780
Rear overhang	[mm]	1098	1098
Rear track width	[mm]	1657	1590
Vehicle length	[mm]	4894	4820
Width excluding exterior mirrors	[mm]	1894	1855
Turning circle (unladen)	[m]	11.7	11.4
Shoulder room, front	[mm]	1445	1432
Shoulder room, rear	[mm]	1259	1254
Elbow room, front	[mm]	1531	1493
Elbow room, rear	[mm]	1338	1334
Maximum headroom, front	[mm]	1023	1019
Maximum headroom, rear	[mm]	925	926
Knee room, rear	[mm]	57	68
Luggage compartment volume (hinged panel of the variable soft top compartment is swung upwards)	[liters]	350	350
Luggage compartment volume (hinged panel of the variable soft top compartment is swung downwards)	[liters]	300	300

### Weights and load capacities

Weights as per DIN of the F12 and the E64 in the European versions and their load capacities are set out in the following table.

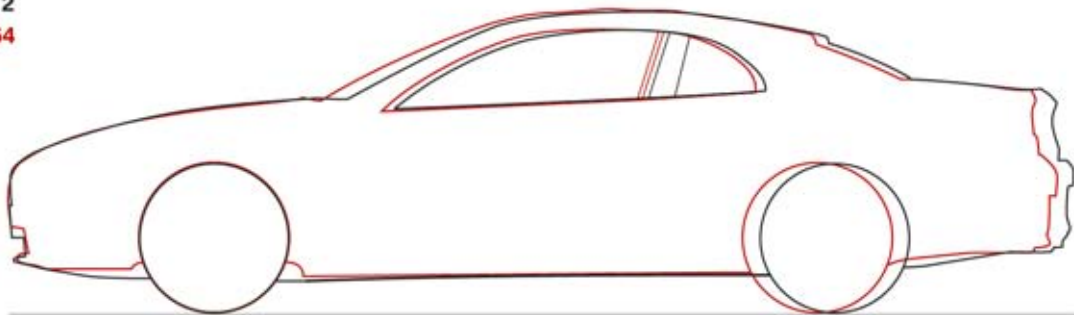
# F12 Introduction

## 1. Introduction

Vehicle	Transmission		Curb weight	Load capacity
F12 650i	Automatic transmission	kg/ lbs	2055/4531	350/772
E64 650i	Automatic transmission	kg/ lbs	1935/4266	400/882
F12 650i US	Manual gearbox	kg/ lbs	2055/4531	350/722

### 1.1.2. Silhouette comparison

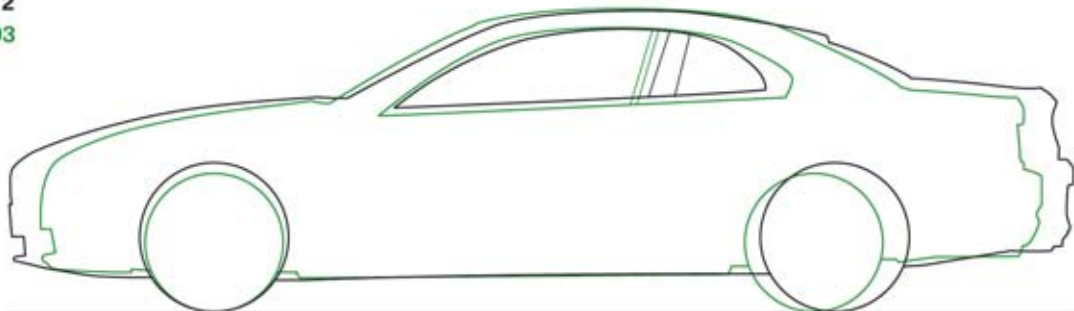
F12  
E64



TK10-1471

F12 Silhouette comparison with BMW 6 Series Convertible E64

F12  
E93



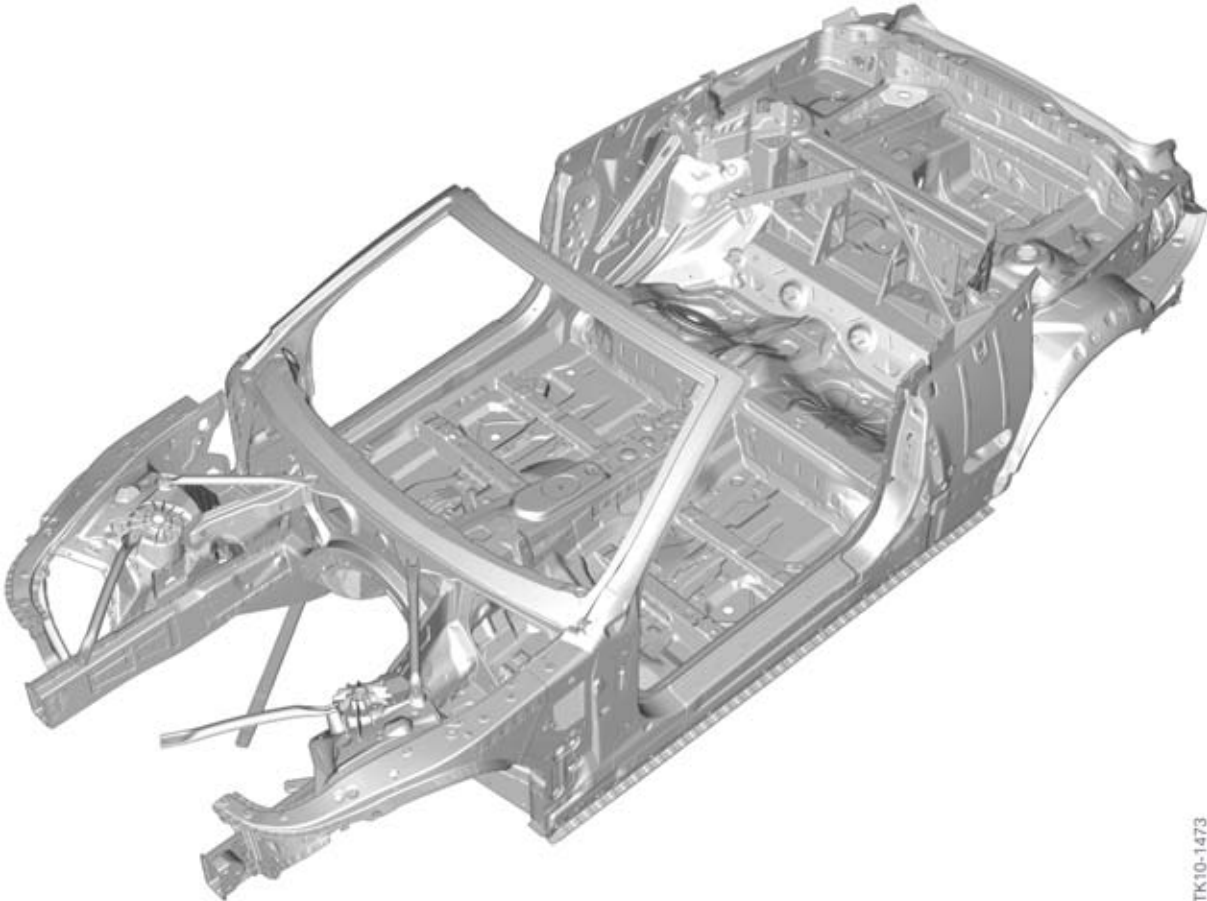
TK10-1472

F12 Silhouette comparison with BMW 3 Series Convertible E93

# F12 Introduction

## 2. Body

### 2.1. Bodyshell



TK10-1473

F12 Bodyshell

#### 2.1.1. Overview

Great emphasis was placed on the use of lightweight materials in the design and construction of the F12 bodyshell. This is achieved with the intelligent application of higher-strength multi-phase steels and super-strength hot-formed steels. The F12 sees an increase in the average strength of its body materials of 29 % compared with the E64.

The use of lightweight materials in conjunction with a rigid bodyshell design results in the enhancement of the following areas:

- Driving dynamics
- Reducing fuel consumption
- Reducing CO<sub>2</sub> emissions
- Passive safety.



# F12 Introduction

## 2. Body

### Special features

- Die-cast aluminium suspension-strut mountings
- High proportion of multi-phase steels (16 % of the bodyshell weight)
- High proportion of hot-formed steels (6 % of the bodyshell weight).

The die-cast aluminium spring strut towers stiffen the front end and thereby improve the driving dynamics. The use of aluminium in the front end also contributes to uniform axle-load distribution. This in conjunction with the strut brace mounted between the front panel, spring strut towers and bulkhead, provides for a homogeneous distribution of stiffness which facilitates the absorption and dissipation of all the vertical, longitudinal and lateral forces in the event of a collision.

The higher-strength multi-phase steels and super-strength hot-formed steels ensure maximum strength of the safety occupant cell (passenger compartment) with low weight, thus making a huge contribution to passive safety.

Along with hot-formed steels, an innovative new development, passive corrosion-proofing, is used. In the past, there were no suitable hot-formed sheet metal materials with galvanized corrosion-proofing available on the market. However, with the development of press-hardening technology there is now a process of manufacturing galvanized hot-formed components that is capable of application in volume production.

It involves initially cold-forming galvanized sheet steel and then heating it to approx. 900 °C/1252 °F. Immediately afterwards it is cooled directly in the moulding die with integrated water cooling within just a few seconds down to approximately 70 °C/158 °F and thereby hardened. That process gives the components a minimum yield strength of well over 1000 MPa.

The parts produced in that way can be used in areas exposed to moisture without suffering corrosion of the basic material. The advantage with type of steel is that it does not require any additional corrosion-proofing measures.

### 2.1.2. Materials

A modern vehicle body must meet a great many requirements. Despite small outer dimensions, it should provide an interior that is as large as possible while providing the highest level of protection in the event of an accident. The torque that is generated also means that the engine and transmission, rely on the body for support. Furthermore, the body must have high static and above all dynamic strength in order to guarantee the outstanding driving characteristics that are typical of BMW.

Last but not least, the supporting structure of the vehicle must be highly durable and, in the event of an accident, it must be possible for repairs to be carried out at a reasonable cost and without an excessive amount of work.

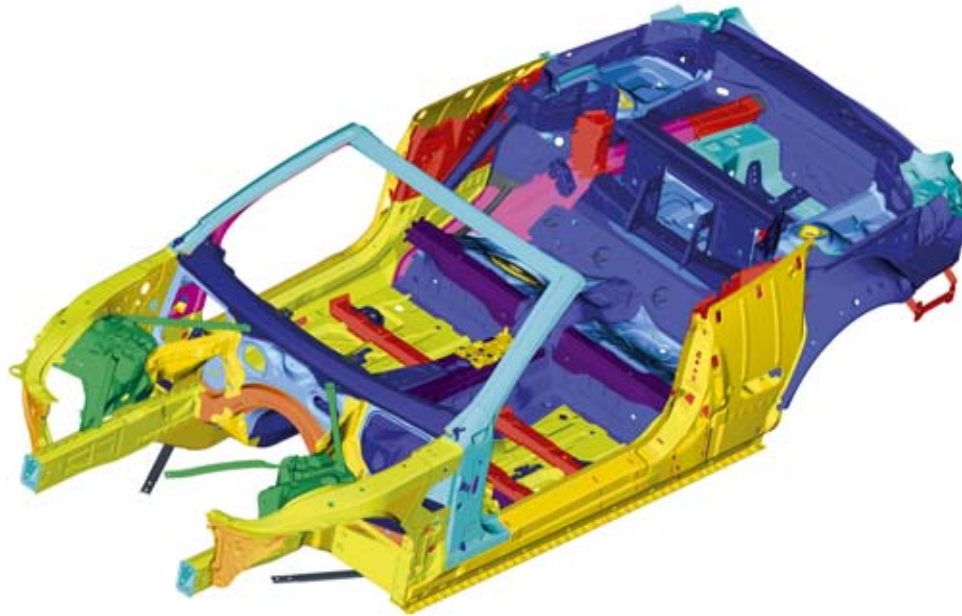
In order to meet all these requirements in the optimum way, BMW pursues the strategy of manufacturing each component from the material that best suits its function.

The two expressions aluminium and steel are merely generic terms for the large number of alloys with very different properties that are deployed.

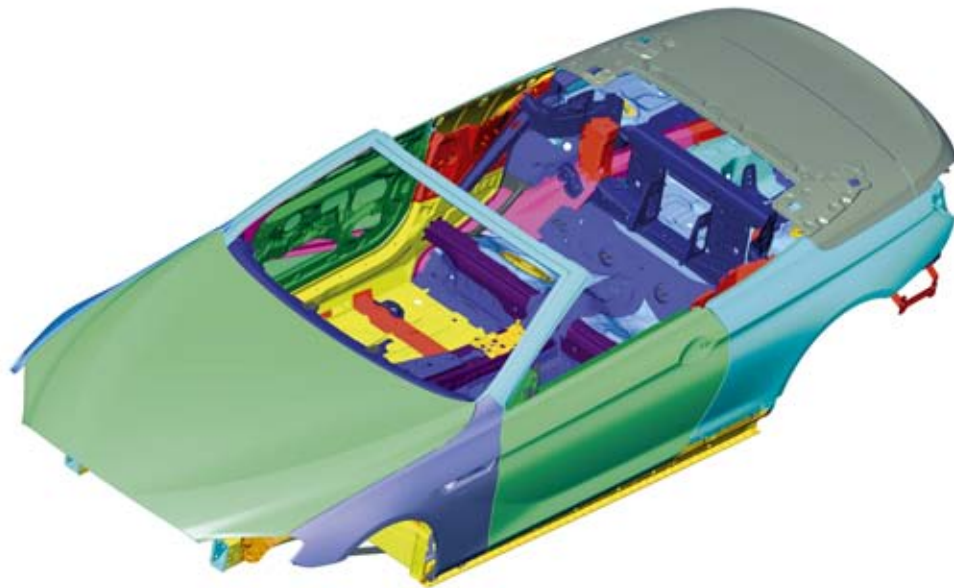
# F12 Introduction

## 2. Body

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F12 Mix of materials

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# F12 Introduction

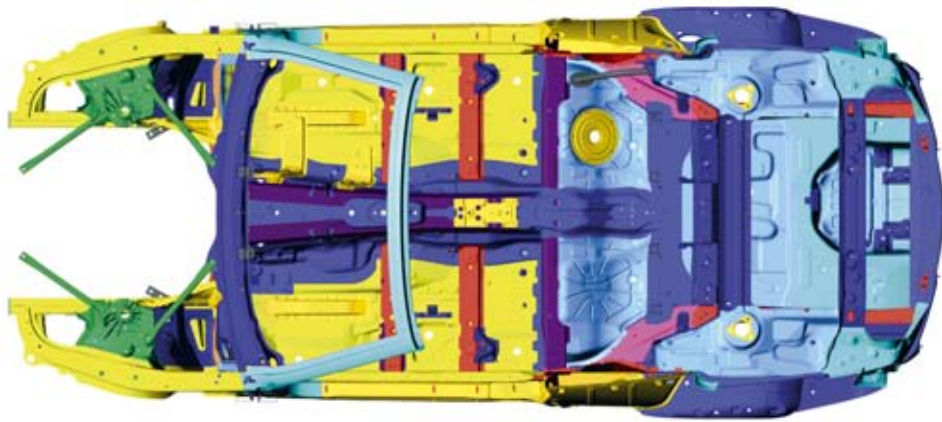
## 2. Body

<b>Index</b>	<b>Explanation</b>
1	DX54D
2	DX56D
3	HC 180BD
4	HC 220BD, HC 220YC
5	HC 260BD, HC 260LAD, HC 260XD
6	HC 300BD, HC 300LAD, HC 300X
7	HC 340LAD, HC 340X(D)
8	HC 380LAD
9	HC 400T
10	HC 420LA(D), HC 450X
11	HC 600C, HD 680C(D)
12	HC 900X, HC 1000W, HC 1000WD+ZFTE
13	AlMg3.5Mn
14	AlSi10MgMnFe
15	AlMgSi (6060)
16	AlMg4.5Mn0.5
17	AlSi0.6Mg0.5
18	Duroplastic SMC
19	Thermoplastic
20	Other metallic materials

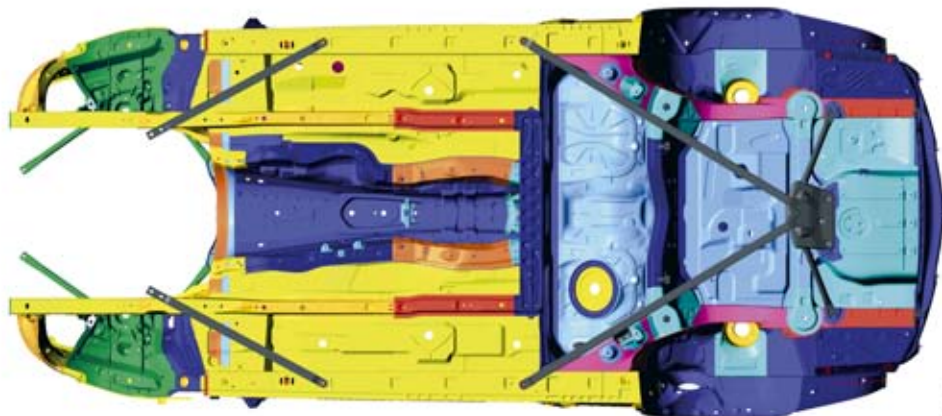
# F12 Introduction

## 2. Body

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TK10-1475

F12 Mix of materials excluding outer skin

# F12 Introduction

## 2. Body

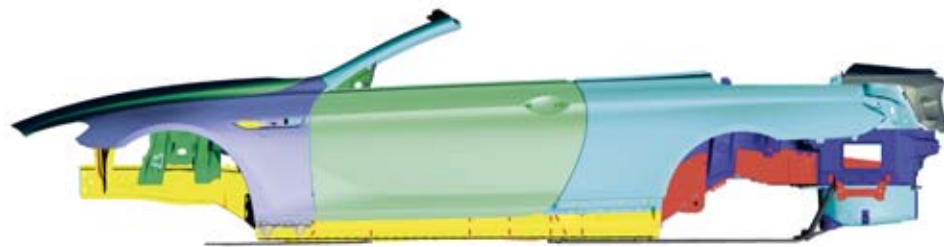
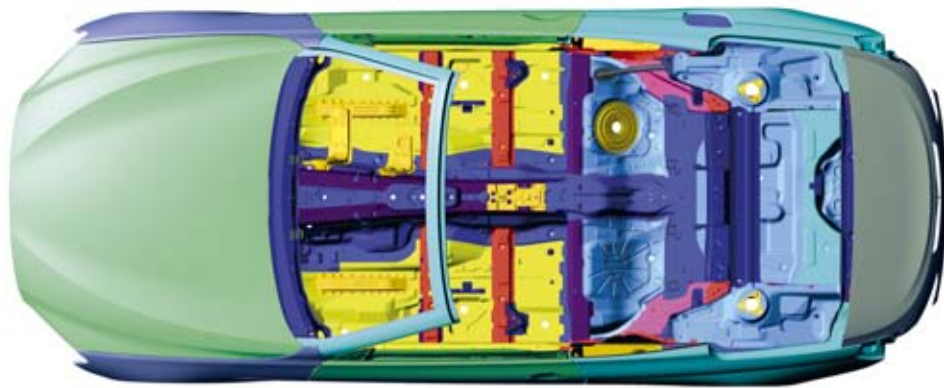
<b>Index</b>	<b>Explanation</b>
1	DX54D
2	DX56D
3	HC 180BD
4	HC 220BD, HC 220YC
5	HC 260BD, HC 260LAD, HC 260XD
6	HC 300BD, HC 300LAD, HC 300X
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8	HC 380LAD
9	HC 400T
10	HC 420LA(D), HC 450X
11	HC 600C, HD 680C(D)
12	HC 900X, HC 1000W, HC 1000WD+ZFTE
13	AlMg3.5Mn
14	AlSi10MgMnFe
15	AlMgSi (6060)
16	AlMg4.5Mn0.5
17	AlSi0.6Mg0.5
18	Duroplastic SMC
19	Thermoplastic
20	Other metallic materials



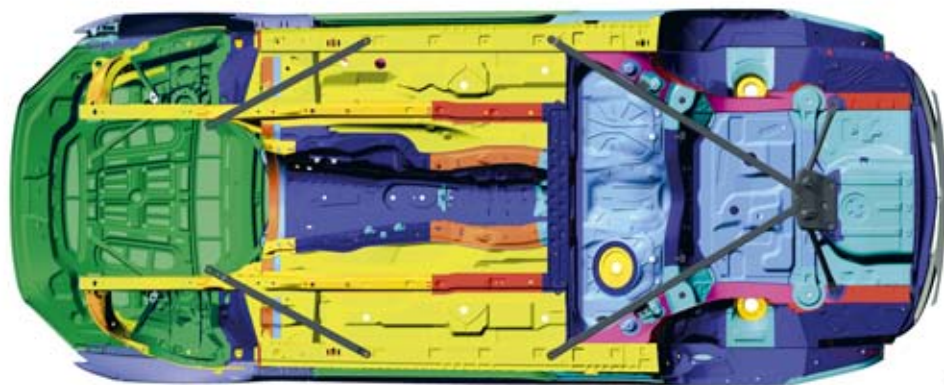
# F12 Introduction

## 2. Body

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F12 Mix of materials including outer skin

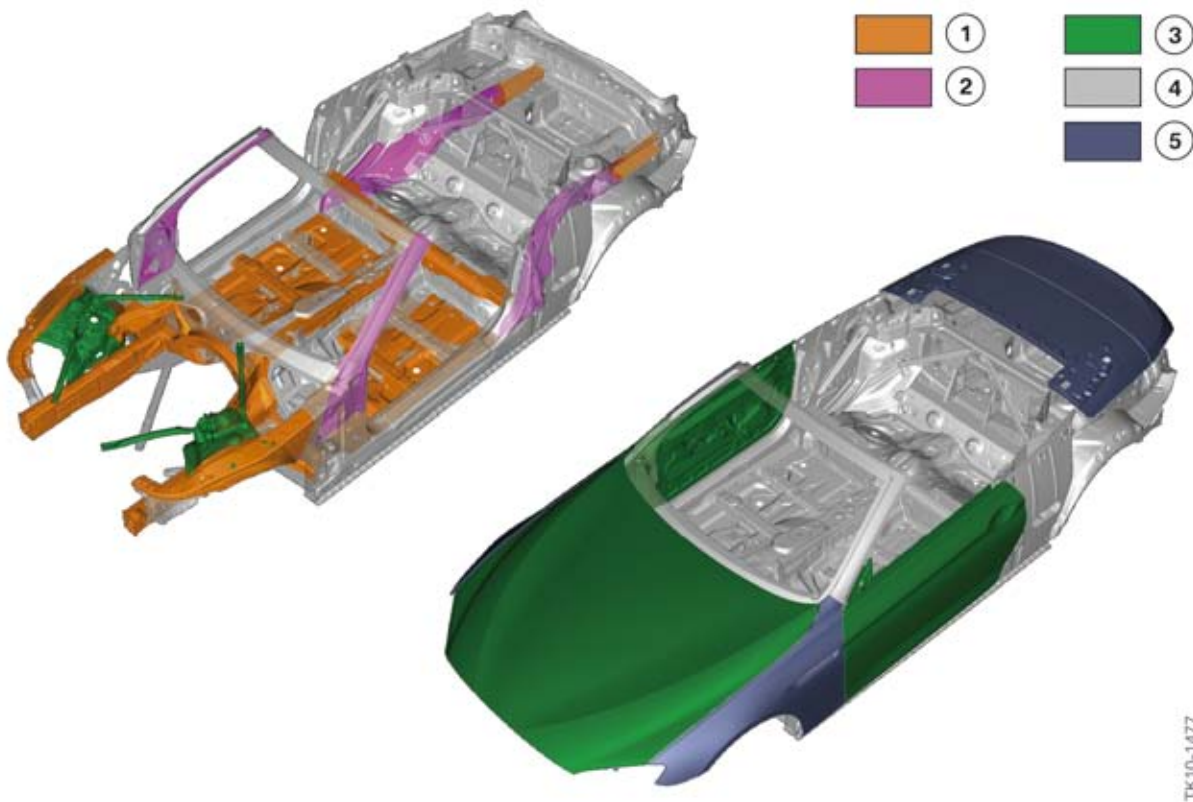
# F12 Introduction

## 2. Body

Index	Explanation
1	DX54D
2	DX56D
3	HC 180BD
4	HC 220BD, HC 220YC
5	HC 260BD, HC 260LAD, HC 260XD
6	HC 300BD, HC 300LAD, HC 300X
7	HC 340LAD, HC 340X(D)
8	HC 380LAD
9	HC 400T
10	HC 420LA(D), HC 450X
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17	AlSi0.6Mg0.5
18	Duroplastic SMC
19	Thermoplastic
20	Other metallic materials

# F12 Introduction

## 2. Body



F12 Material grades, bodyshell

Index	Explanation
1	Multi-phase steels (> 300 MPa)
2	Hot-formed steels (> 900 MPa)
3	Aluminium
4	Other steels (< 300 MPa)
5	Plastics

Multi-phase steels are steels where the structure consists of a number of phases. Higher-strength multi-phase steels with a yield strength  $R_{p0.2}$  of 300 to 600 MPa are, for example, dual-phase steels or TRIP steels. Super-strength multi-phase steels with a yield strength  $R_{p0.2}$  in excess of 600 MPa are, for example, complex-phase steels or martensitic-phase steels.

Hot-formed manganese-boron steels are super-strength steels with a yield strength  $R_{p0.2}$  in excess of 900 MPa.

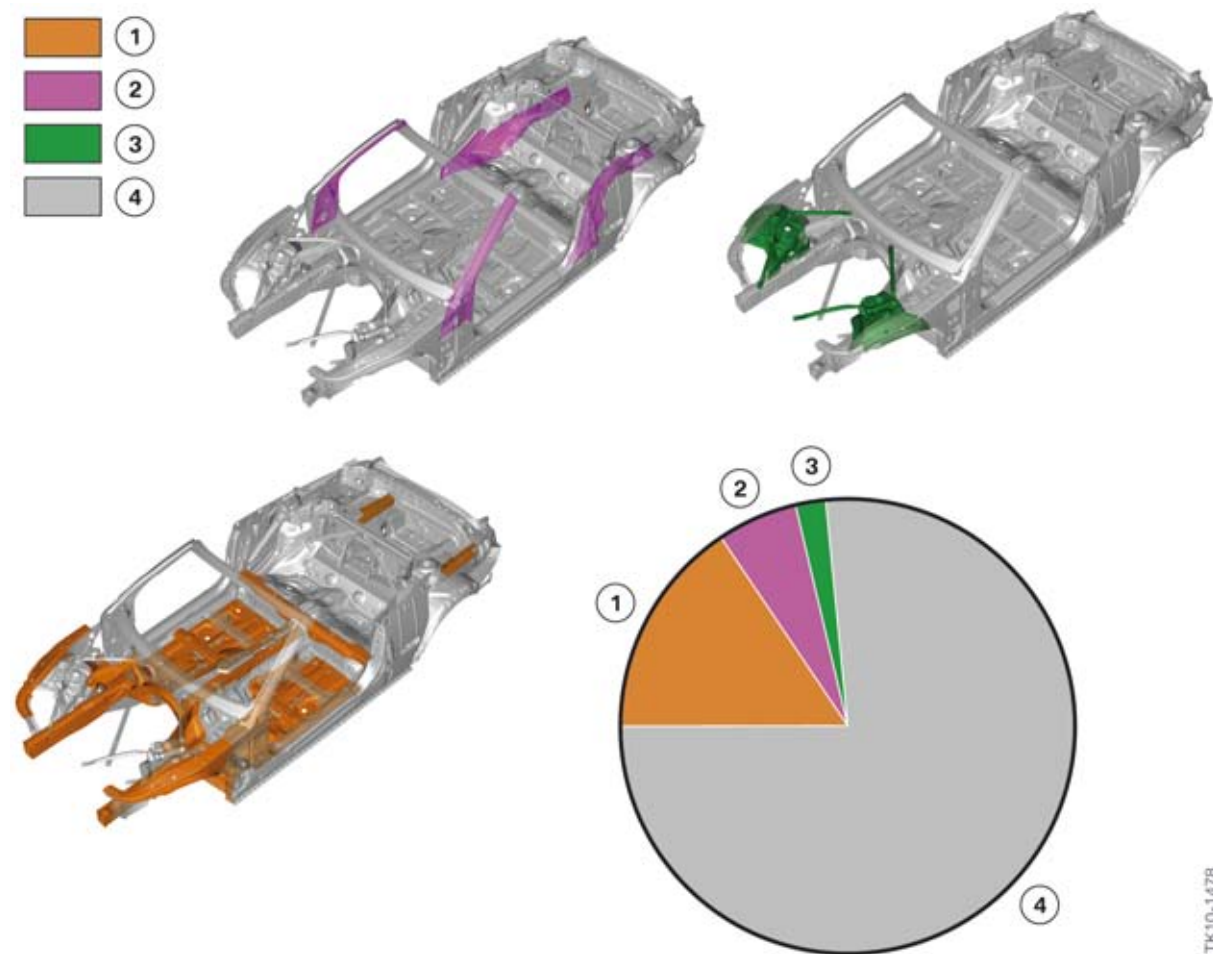
### Weight proportions

In order to reduce the vehicle weight and still ensure maximum strength of the bodyshell, the proportion of higher/super-strength multi-phase steels, super-strength hot-formed steels and aluminium used is growing.



# F12 Introduction

## 2. Body



F12 Bodyshell, distribution of material grades

Index	Explanation
1	Multi-phase steels (> 300 MPa), proportion 16 %
2	Hot-formed steels (> 900 MPa), proportion 6 %
3	Aluminium, proportion 2%
4	Other steels (< 300 MPa), proportion 76 %

### 2.1.3. Corrosion protection and leak resistance

Primarily galvanized sheet iron and aluminium sheets are used in the F12 body to optimize corrosion protection. Welding, bonding and riveting processes are used as joining methods.

The overlaps of the metal plates are designed in such a way that the join surfaces are minimized. This prevents bondline corrosion. Water is prevented from entering the body structure by means of constructive bonding and sealing of the join surfaces.

In particularly critical areas, expansion foam parts are used to seal the body cavities against moisture. Double-sheet panels in wet areas are double-sealed and, if necessary, also cavity-filled with wax.

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# F12 Introduction

## 2. Body

Where required, the overlaps of the metal plates in dry chambers are sealed off to prevent dust from entering.

Risks of corrosion are avoided by using optimum processes.

### Coating process

In the painting process in the immersion cleaning unit, the bodyshell

- is cleaned by alkali
- is phosphated (roughing of the surface for better adhesion)
- is coated in the immersion process using cathodic dip-painting (anticorrosive paint which coats all the body cavities from both the inside and the outside)

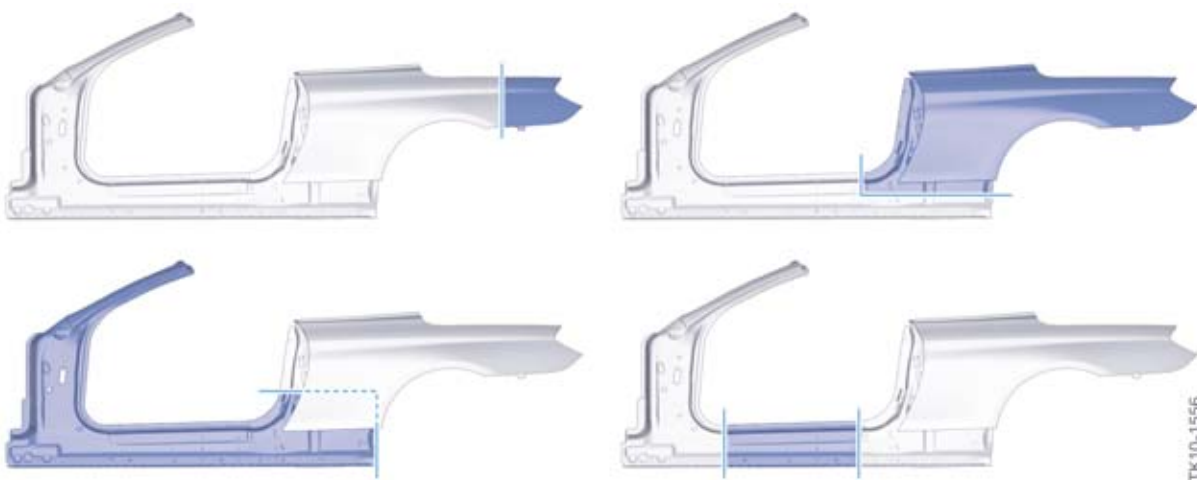
The organic coat is then baked at up to 200 °C/392 °F

Furthermore, the body is sealed with PVC and protected by filler, top coat and clear varnish on the outer skin.

The objectives are:

- No visible corrosion in the outer skin area for five years
- No visible corrosion in the underbody area for three years
- No rust penetration for twelve years
- High leak-tightness against water and dust.

### 2.1.4. Side frame



F12 Separation points for repair

The separation points shown above must be used for repair.

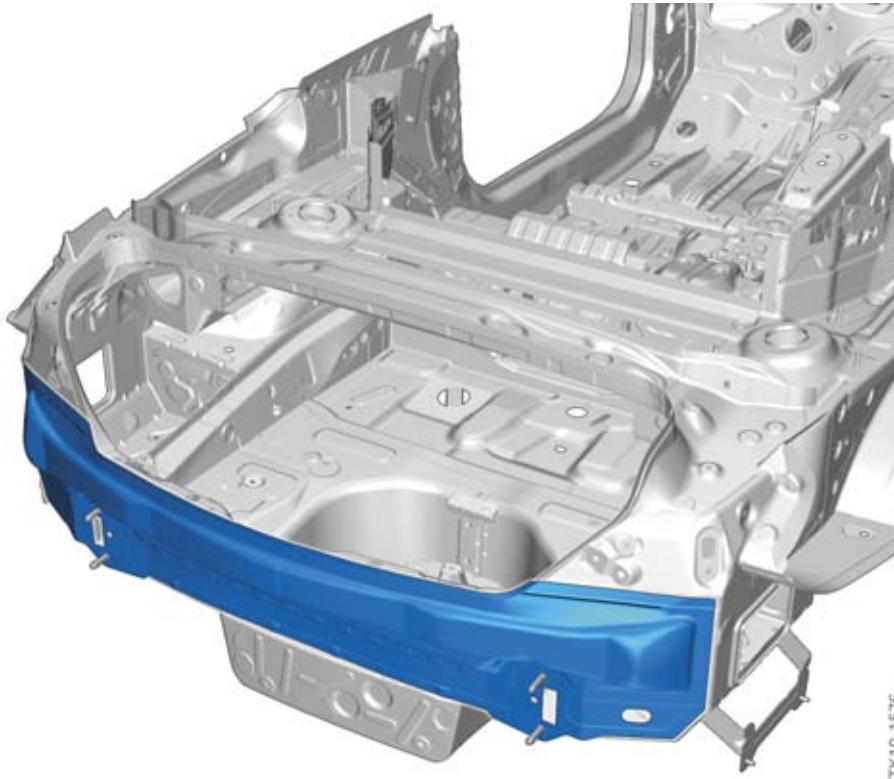
The rear side panel is bonded and riveted in the repair.

# F12 Introduction

## 2. Body

### 2.1.5. Rear trim panel

The rear trim panel is welded at the factory to the bodyshell. The rear trim panel is bonded and riveted in the repair.



F12 Rear trim panel

## 2.2. Rollover protection system

The rollover protection system is installed as standard behind the rear head restraints and is used for passive safety purposes.

In the event of the car rolling over, two rollover bars extend from the module within fractions of a second and lock positively. This, together with the reinforced windshield frame, secures the cabin space for the occupants.

If an accident situation that is critical to the car's occupants is identified by the electrical system's sensor system and signalled to the Crash Safety Module (ACSM). The module outputs a signal for activating the two pyrotechnical actuators in the rollover protection system.

The actuators release the spring-loaded rollover bars. The two rollover bars extend and lock in their end position by means of pawl/gear strip.

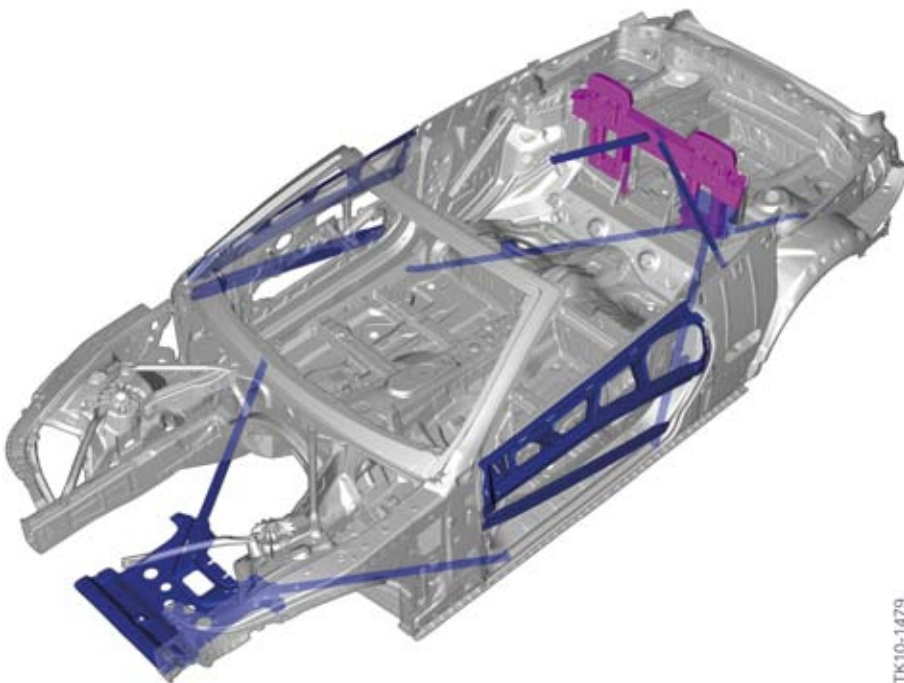
# F12 Introduction

## 2. Body

### Special features

- Increased passive safety
- Structure-orientated modular construction
- Reduced weight compared with rollover protection system with fixed-bodyshell partition wall
- Load-bearing parts made from lightweight, high-strength aluminium
- Supported vehicle rigidity.

For further information on the rollover protection system, please refer to the product information F12 Passive Safety System.



F12 Rollover protection system and brace concept

TK10-1479

### 2.3. Pedestrian protection

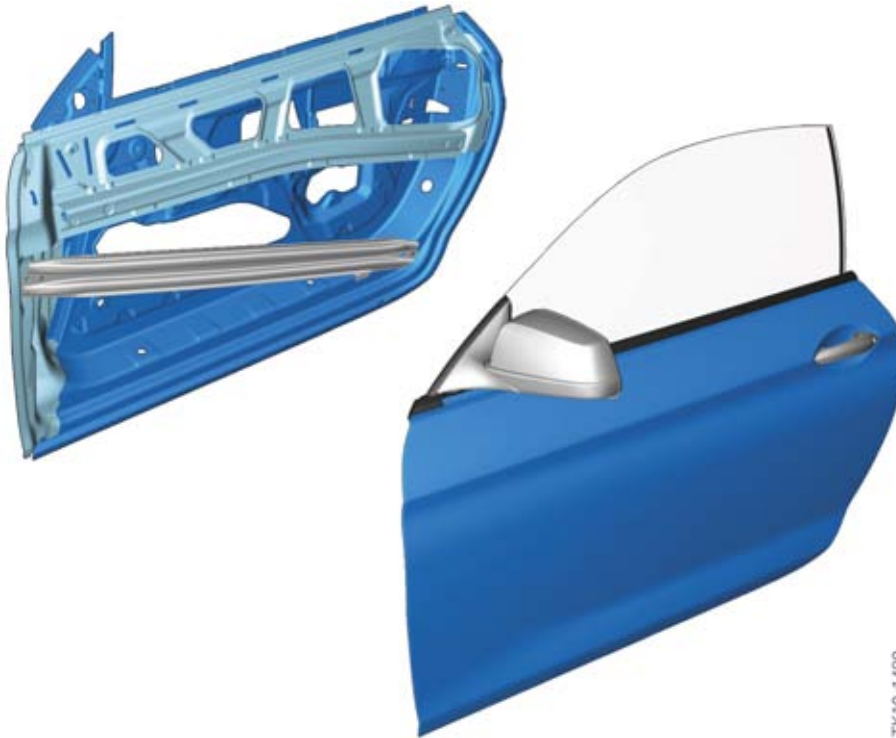
Several pedestrian protection features have been incorporated in the F12 front section. An impact absorber is installed between the bumper support and the bumper trim to cushion leg impact. The hood is made from aluminium and is fitted with deformation elements. These design measures are intended to produce a defined reduction of energy in the event of an accident.

### 2.4. Doors

Frame less doors with sheet aluminium shell design are installed in the F12.

# F12 Introduction

## 2. Body



F12 Door

Large sheet metal braces that transfer force in the door area ensure high rigidity and component quality with the smallest tolerances. The implementation of high draw depths and a new component separation (hinge reinforcement and inner door panel) have enabled a sophisticated design / contour in the exterior.

Advantages of these design features are:

- Reduced CO<sub>2</sub> emissions and increased driving dynamics thanks to reduced weight (approx. 14 kg/30 lbs per vehicle in relation to a comparable steel variant)
- The highest form stability of individual parts as a result of one-part inner door panels
- Lowest possible number of components for the door structure
- Laser welding and structural adhesive bonding as methods of joining the door structure

Aluminium door structures have already featured frequently in BMWs in the past, e.g. in the E52, E63, E64 and E36 M3. Aluminium doors have been manufactured for vehicles in high quantities since the F01. The aim of developing the door structure was to implement a door concept of sheet aluminium shell design which can also be manufactured in higher quantities at acceptable costs.

However, from a production engineering point of view the manufacture of sheet aluminium shell parts is more demanding than steel, especially at high draw depths, due to the fact that aluminium is harder to work. By developing a new structural concept with large shells capable of transmitting force, production capability could be ensured without having to depart from the proven sheet-metal shell design.

The F12 is the first Convertible to feature a drop-type rear side window with anti-trap mechanism.

# F12 Introduction

## 2. Body

### 2.5. Front fenders

In the F12 the front fenders are made of thermoplastic.



F12 Front fenders

#### Special features

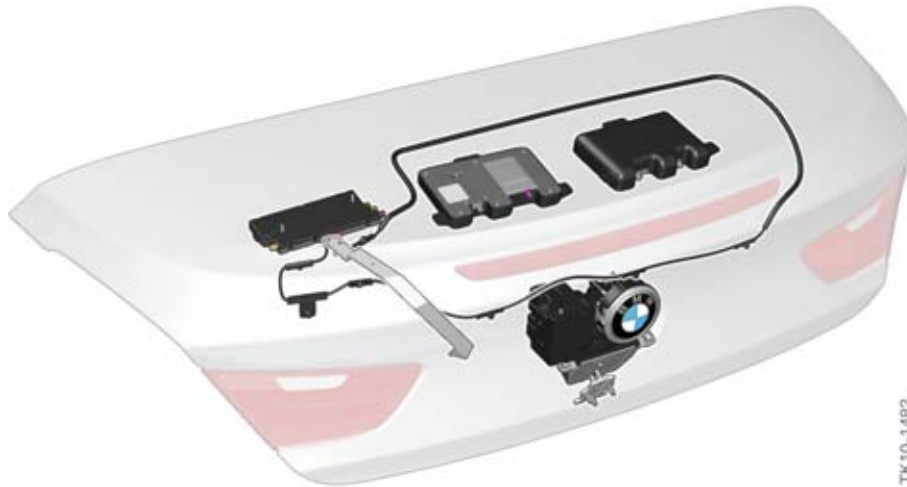
- Reduced CO<sub>2</sub> emissions and increased driving dynamics thanks to reduced weight (–2 kg/4.4 lbs per vehicle compared with a comparable steel variant)
- Increased customer value thanks to inexpensive integration of design elements and design features
- Resistance to minor damage thanks to high elasticity of the material
- No corrosion
- Positive environmental footprint thanks to the use of up to 30 % recycled material

# F12 Introduction

## 2. Body

### 2.6. Trunk lid

The F12 trunk lid is made of SMC (Sheet Moulding Compound), a fiber composite, in an optimum-weight shell design.



F12 Trunk lid with antennas and rear view camera

#### Special features

- Safeguarded geometrical layout
- Functional integration of aerodynamic requirements
- Integration of an additional brake light
- Aerial integration (no visible antennas)
- Rear view camera integrated in the BMW badge
- Released by actuating the BMW badge

For further information on the integrated antennas, please refer to the product information F12 General Vehicle Electronics section.



# F12 Introduction

## 2. Body



F12 Rear view camera

Index	Explanation
1	BMW badge
2	Housing
3	Holder
4	Gaiter
5	Drive unit
6	Rear view camera



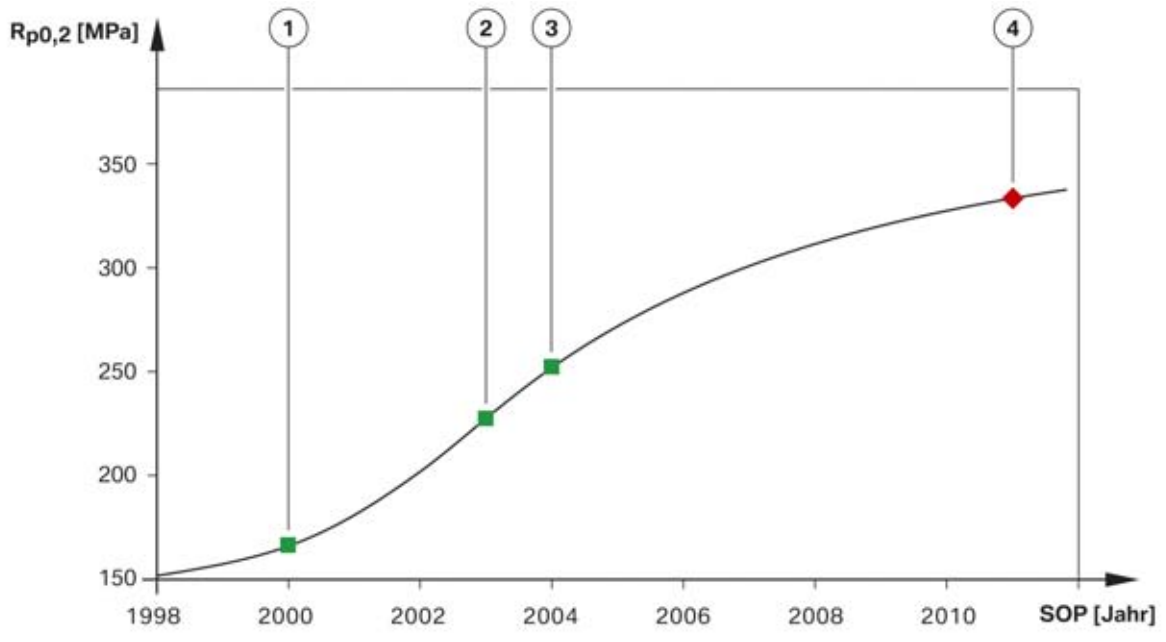
# F12 Introduction

## 2. Body

### 2.7. Strength

The strength of the bodyshell is expressed as the minimum yield strength.

The minimum yield strength  $R_{p0.2}$  refers to the tension (force per unit area in MPa or N/mm<sup>2</sup>) above which non-reversible plastic deformation of 0.2% occurs.

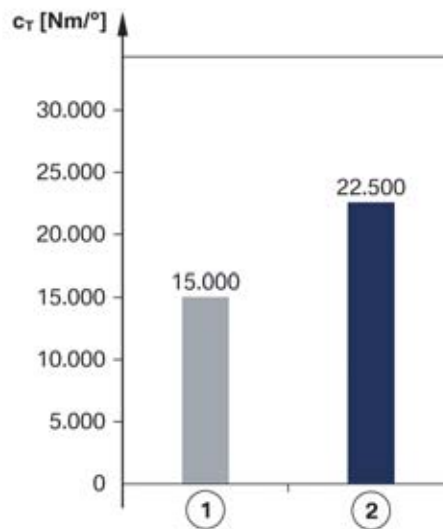
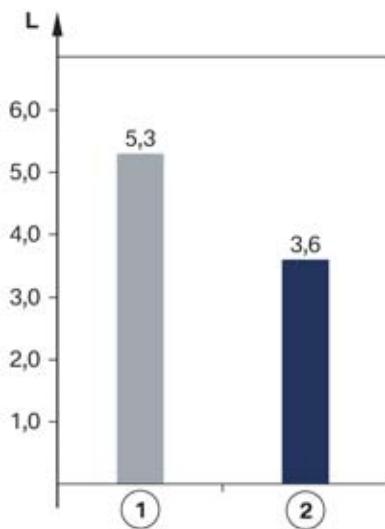


Development of average minimum yield strength of bodyshell.

Index	Explanation
1	3 Series Convertible (E46/2C model year 2000)
2	Z4 Roadster (E85 model year 2003)
3	6 Series Convertible (E46 model year 2004)
4	<b>6 Series Convertible (F12 model year 2011)</b>
SOP	Year of the series launch

# F12 Introduction

## 2. Body



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F12 Comparison of lightweight construction grade and static torsional rigidity of the bodyshell with BMW 6 Series Convertible E64

Index	Explanation
$c_T$	Static torsional rigidity
L	Lightweight construction grade
1	E64 model year 2004
2	F12 model year 2011

Static torsional rigidity refers to the distortions of the body about an axis when subjected to a torque. Because there is a conflict of objectives between lightweight construction and rigidity, static torsional rigidity is never considered on its own; instead, the lightweight construction grade is also considered.

The lightweight construction grade describes the static torsional rigidity value in relation to the contact area (toe x wheelbase) and to the weight of the bodyshell (without doors and compartment lids). It is a measure of what rigidity has been achieved with what small amount of mass for a given contact area.

In the F12 it has been possible to achieve a lightweight construction grade of 3.6 through intelligent geometrical layout of the load paths in conjunction with lightweight material construction.

# F12 Introduction

## 3. Exterior and Interior Equipment

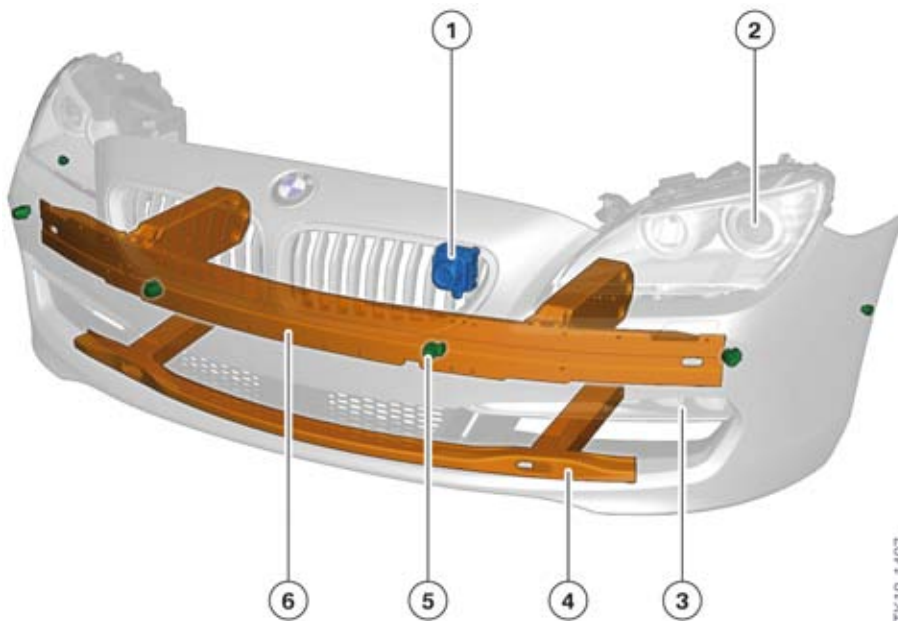
### 3.1. Exterior equipment

#### 3.1.1. Front section

The front section of the F12 body can be removed completely. It consists of the bumper, the lights, a number of sensors and trim panels.



**It is imperative that the repair instructions are followed when removing and refitting the front end.**



F12 Front section

Index	Explanation
1	Night Vision camera option SA 6UK, Night Vision with person recognition)
2	Xenon headlight
3	Fog light
4	Lower bumper support
5	Sensor, Park Distance Control PDC
6	Upper bumper support

#### 3.1.2. Underbody design

The virtually smooth underbody throughout reduces drag and lift forces. Strategically placed air inlets provide for optimum component cooling. The underbody panelling improves acoustics and protects lines and other components against stone chipping and dirt contamination. This offers the best body and components protection against corrosion.

# F12 Introduction

## 3. Exterior and Interior Equipment



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**Modifications to the underbody or the omission of trim panels will result in an altered air flow along the underbody. This can influence road grip.**

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### 3.2. Interior equipment

#### 3.2.1. Dashboard

The F12 is equipped with a multi-part dashboard.



F12 Passenger compartment, dashboard

The basic version of the dashboard is covered with flexible soft skin and finished with single-lapped seams. The upper and lower sections on the driver's side are always black, regardless of the trim color.

The glove box is, depending on the trim color, available in the four colors: black, ivory white, cinnamon brown and vermilion red.

The dashboard is available with a full Nappa leather surface with double-lapped seams.

In conjunction with the leather-lined dashboard a contrast stitching of the decorative seams is, depending on the trim color, available in the colors: grey, oyster, red-orange or tannin red.

The air vents for defrosting the side windows are located not in the dashboard, but in the doors. Air is routed into the doors through an air vent in the side cover of the dashboard.

#### Special features

- Improved driver controls facing towards driver on dashboard center
- Enhancement of decorative strips and air vent grilles by accentuation strips
- Free-standing central information display (CID)
- Integrated, fixed storage compartment in the glove box

The high-resolution central information display (CID). . A display of 10.25" is installed.

# F12 Introduction

## 3. Exterior and Interior Equipment

The superior-quality decorative strip geometry is further enhanced by galvanized accentuation strips.

In addition, the visual appearance of the fresh-air grille is enhanced by a chrome link on the adjusting lever for altering the airflow direction and by galvanized outer fins.

### 3.2.2. Center console



F12 center console

The F12 is equipped with a two-piece center console. It consists of the center console carrier and the corresponding function carrier, depending on the gearbox installed (manual gearbox or automatic transmission). The function carrier is welded to the center console carrier.

The surfaces and decorative seams of the side section on the passenger side, the center armrest and the rear center console trim are of the same design as the dashboard.

The decorative surfaces of the dashboard are repeated in the generous center console decorative trim.

Depending on the trim color selected, the concealed side trims come in black, ivory white, cinnamon brown or vermilion red, and the carpet trims come in black or oyster to match the floor trim.

### 3.2.3. Storage options

The F12 features the following storage options:

- A door pocket in both the driver's and passenger doors
- Glove box
- Storage net in the passenger footwell

# F12 Introduction

## 3. Exterior and Interior Equipment

- Two cup holders in front of the gear selector lever, or an oddments tray or ashtray in front of the gearshift lever (depending on the vehicle equipment specification)
- Cup holder, oddments tray or ashtray behind the controller (depending on the vehicle equipment specification)
- Center armrest storage compartment (with cup holder for manual gearbox).

The latch for the center armrest is linked to the central locking system.

### 3.2.4. Front seats

Lightweight front seats with integrated belts are used in the F12. They are low in height, thereby facilitating a low seat position. This has made it possible to deliver among other things a flat roof line in the F12.

The use of higher-strength steels has reduced the wall thicknesses of the seat structure and with it reduced the weight of the seats. This has made the front seats much narrower, especially in the backrests. Omitting the belt height adjusters has also helped to reduce the weight.

The backrests of the front seats are no longer fitted with conventional rear panels; instead they have bag-type covers, flanked on either side by a plastic trim.



F12 Front seat

Unlike the E63/E64, the F12 uses the same front seats as the F13 Coupe.

The front seats of F12 offer the same functionality as those of the F01.

# F12 Introduction

## 3. Exterior and Interior Equipment

The following front seat variant is standard:

- Multi-contour seat

### Seat equipment

	<b>Multi-contour seat</b>
Seat memory	Standard
Seat heating for driver/front passenger	SA 248 included in ZCW Cold weather package
Lumbar support, driver/front passenger	Standard
Active seat for driver / front passenger	SA 455 included in ZLS Luxury seating package
Active seat ventilation, front	SA 453 included in ZLS Luxury seating package
Crash-active head restraint <sup>1</sup>	Standard
Comfort head restraint	Standard

<sup>1</sup> For further information on the crash-active head restraint, please refer to the product information F12 Passive Safety System.

### Seat adjustment

The seats of the F12 can in the top-end equipment specification be adjusted in nine directions.

# F12 Introduction

## 3. Exterior and Interior Equipment



TK10-1541

F12 Maximum seat adjustment

Index	Explanation
1	Head restraint height adjustment
2	Backrest upper section adjustment
3	Backrest angle adjustment
4	Backrest width adjustment
5	Forward/back seat adjustment
6	Seat height adjustment
7	Seat angle adjustment
8	Seat depth adjustment
9	Lumbar support adjustment

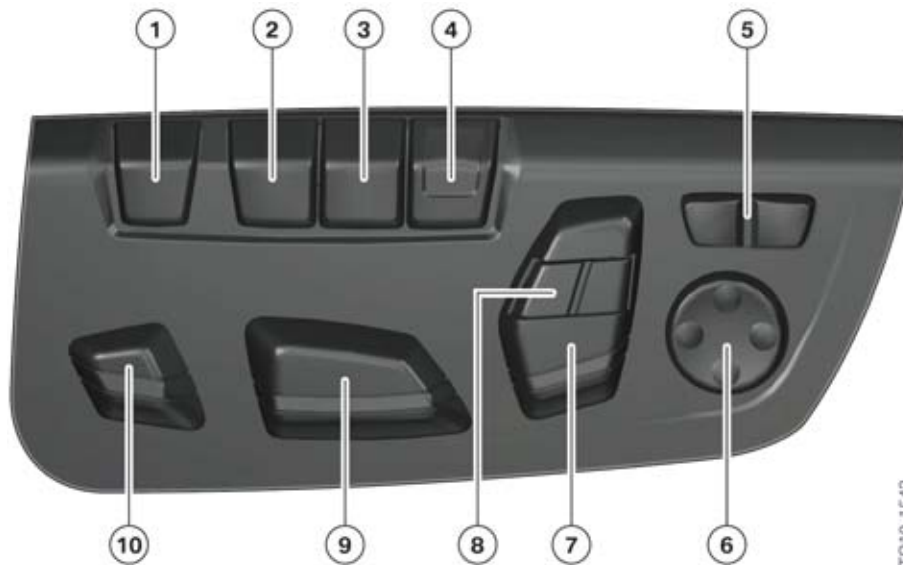


# F12 Introduction

## 3. Exterior and Interior Equipment

Seat adjustment options	Multi-contour seat
Seat height adjustment	electric
Forward/back seat adjustment	electric
Seat angle adjustment	electric
Backrest angle adjustment	electric
Head restraint height adjustment	electric
Seat depth adjustment	electric
Backrest width adjustment	electric
Backrest upper section adjustment <sup>1</sup>	electric
Lumbar-support adjustment	electric

<sup>1</sup> In the F12 backrest upper section adjustment moves not the complete backrest upper section including head restraint (as in the F01), but only the backrest upper section.



F12 Driver's seat adjustment

Index	Explanation
1	Active seat button
2	Button 2 (calls up stored position)
3	Button 1 (calls up stored position)
4	Button M (stores current position)
5	Backrest width adjustment
6	Lumbar support adjustment

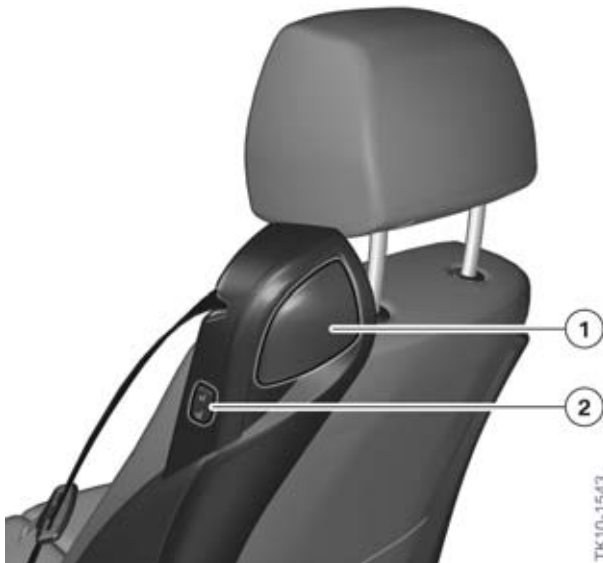
# F12 Introduction

## 3. Exterior and Interior Equipment

Index	Explanation
7	Backrest angle and head restraint height adjustment
8	Backrest upper section adjustment
9	Forward / back, seat height and seat angle adjustment
10	Seat depth adjustment

The F12 features for the first time seat adjustment with memory buttons situated at the top so that they are also visible to the occupant while sitting.

The front seats also have a rear easy-entry facility by means of forward/back seat adjustment and a mechanical backrest tilt-forward facility.



F12 Rear easy-entry facility

Index	Explanation
1	Backrest tilt-forward facility
2	Rear easy-entry facility button



Before driving off, tilt the backrest back and lock in place, otherwise there is a risk of accident due to unexpected seat movement.

The handle for tilting the backrest forwards is, unlike its predecessor, mounted directly on the seat belt guide loop. It does not have to be operated to tilt the backrest back.

Depending on the seat position, the seat and/or the head restraint are adjusted downwards when the backrest is tilted forwards.

If the backrest fails to engage correctly when it is tilted back, a Check Control message is displayed in the instrument panel.

# F12 Introduction

## 3. Exterior and Interior Equipment

The seat can be moved into the desired position by pressing the rear easy-entry facility button. Releasing the button stops the seat's movement. If the seat is adjusted towards the rear, it returns to its original position.

If the rear easy-entry facility button is only briefly pressed, the seat moves to its respective end position. Pressure the button again stops the seat's movement.

### Seat heating

The buttons for operating seat heating are located in the integrated automatic heating/air conditioning system control panel.



F12 Integrated automatic heating/air conditioning system control panel

Index	Explanation
1	Button for seat heating, driver's seat
2	Button for seat heating, front passenger seat

### Active seat ventilation

The buttons for operating active seat ventilation are located in the integrated automatic heating/air conditioning system control panel.



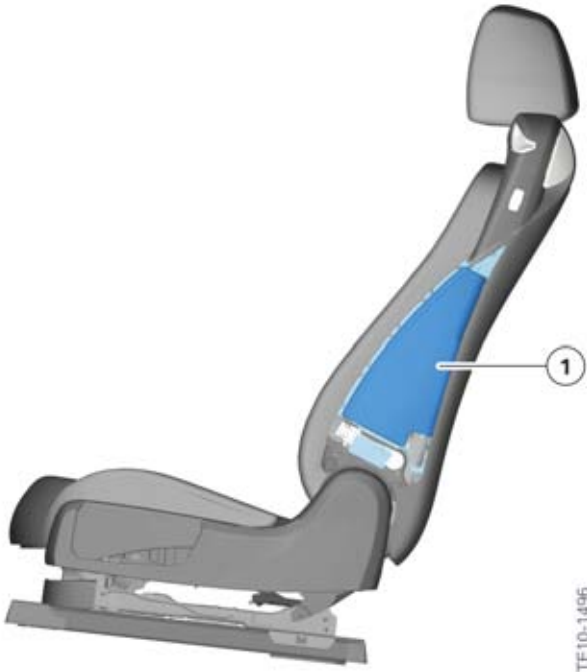
F12 Integrated automatic heating/air conditioning system control panel

Index	Explanation
1	Button for active seat ventilation on driver's seat
2	Button for active seat ventilation on front passenger's seat

# F12 Introduction

## 3. Exterior and Interior Equipment

### Side head airbag



F12 Side head airbag

Index	Explanation
1	Side head airbag

The side head airbag is not located under the seat cover, but instead is mounted in the form of a container solution to the side of the seat frame.

### Seat belt

The F12 features front seats with integrated seat belt systems, making the belts much easier to access.

# F12 Introduction

## 3. Exterior and Interior Equipment



F12 Seat belt

Index	Explanation
1	Belt tensioner
2	Side head airbag
3	Automatic reel tensioner with adaptive force limiter

The automatic reel is located under the front seat pan, thereby reducing the weight of the backrest.

The front seats are equipped with belt tensioners, and the front passenger seat is additionally equipped with a seat occupancy detector.

### 3.2.5. Wind deflector

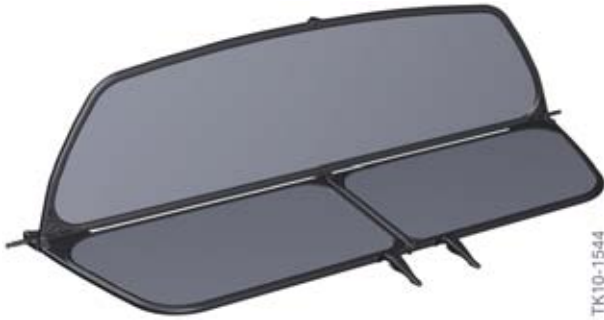
A wind deflector can be ordered for the F12.

When installed, the wind deflector deflects the air turbulence generated by the air flow away from the passenger compartment. This provides for a comfortable drive with the soft top open, particularly at higher speeds.

The upper frame of the wind deflector can where necessary be manually folded down or placed in the upright position again. When not being used, the wind deflector is kept in the supplied storage pouch in the luggage compartment to save space.

# F12 Introduction

## 3. Exterior and Interior Equipment



F12 Wind deflector

The wind deflector for the F12 is, apart from the longer bolts and mounting arms, identical to the wind deflector for the E64.

### 3.2.6. Climate control

The F12 is equipped with 2/2-zone integrated automatic heating/air conditioning (IHKA).

The first number denotes the number of controllable temperature zones (temperature selector wheels) and the second number the number of controllable airflow volume and air distribution zones (separate fan settings).



F12 Integrated automatic heating/air conditioning system control panel

### Equipment

- Separate control of temperature for front left and right
- Separate control of airflow volume and distribution for front left and right
- Convertible mode with soft top open
- Independent ventilation
- Residual heat utilization
- Anti-fogging
- Fresh air and recirculated air filtering (microfilter)
- Individual automatic control with five intensity levels
- Solar compensation<sup>1</sup>
- Automatic air recirculation control (including combination filter<sup>2</sup>)
- ALL function (driver settings are carried over to front passenger)

# F12 Introduction

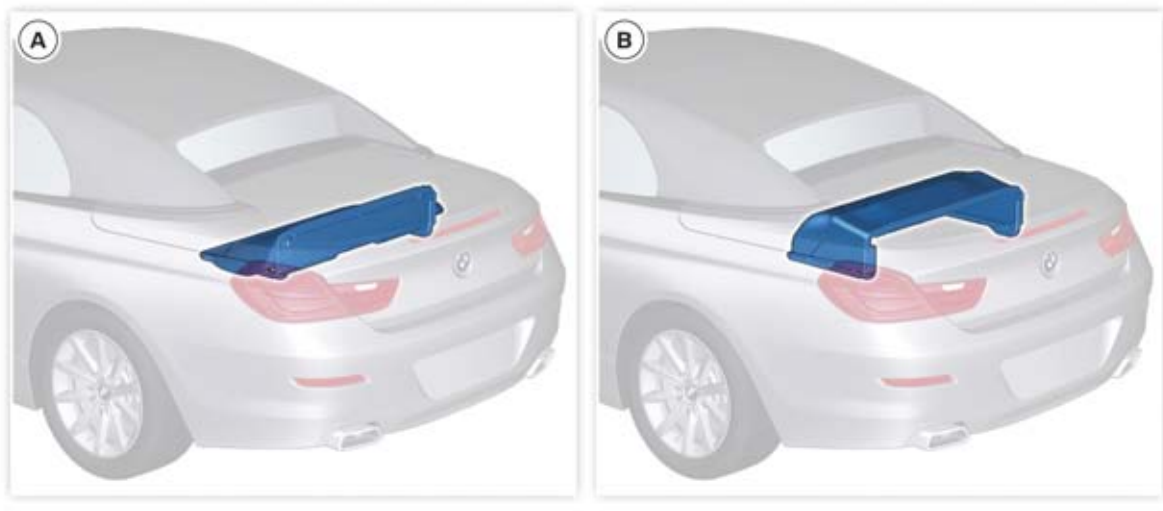
## 3. Exterior and Interior Equipment

<sup>1</sup> A solar sensor detects external light/heat sources that affect the interior climate.

<sup>2</sup> Combination of microfilter (keeps out dust and pollen) and activated carbon filter (to stop unpleasant odors)

### 3.3. Luggage compartment

The luggage compartment capacity is 300 liters. With the soft top closed, the hinged panel of the variable soft top compartment can be swung upwards, increasing the luggage compartment capacity to 350 liters.



F12 Variable soft top compartment

Index	Explanation
A	Hinged panel swung downwards
B	Hinged panel swung upwards

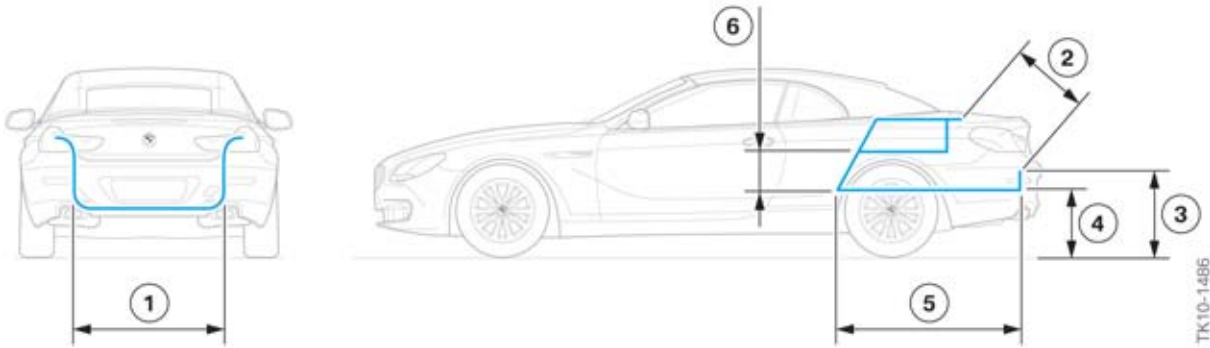
The luggage compartment is big enough to hold, for example, two golf bags and a small case.

Under the floor trim is a storage tray for the toolkit.

# F12 Introduction

## 3. Exterior and Interior Equipment

### 3.3.1. Dimensions



F12 Luggage compartment dimensions

		<b>F12</b>	<b>E64</b>
Smallest luggage compartment width (1) (between wheel arches)	[mm]	830	805
Maximum luggage compartment width	[mm]	1382	1287
Luggage compartment opening (2)	[mm]	378	385
Width of rear opening, top	[mm]	1133	1232
Width of rear opening, bottom	[mm]	992	1068
Loading edge height above roadway (3)	[mm]	711	727
Luggage compartment floor height above roadway (4)	[mm]	482	494
Luggage compartment floor length (5)	[mm]	902	925
Luggage compartment height (6) under variable soft top compartment	[mm]	422	413
Luggage compartment volume (hinged panel of the variable soft top compartment is swung upwards)	[liters]	300	300
Luggage compartment volume (hinged panel of the variable soft top compartment is swung downwards)	[liters]	350	350







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